

ELECTRO SPINNING OF SUBMICRON DIAMETER POLYMER FILAMENTS

ABSTRACT OF THE DISCLOSURE

An electro spinning process yields uniform, nanometer diameter polymer filaments. A thread-forming polymer is extruded through an anodically biased die orifice and drawn through an anodically biased electrostatic field. A continuous polymer filament is collected on a grounded collector. The polymer filament is linearly oriented and highly uniform in quality. The filament is particularly useful for weaving body armor, for chemical/biological protective clothing, as a biomedical tissue growth support, for fabricating micro sieves and for microelectronics fabrication.